It is the clear truth of the setting of the story that strikes us most. What Patrick attacked was a pagan Gorsedd, and the incident is of great value as showing the use of the stone circle in the fifth century. We seem to see it in use in the earliest of Welsh tales, but we cannot assign definite periods to the incidents recorded. Here, however, we have a fairly historical episode, which should be read with Geoffrey of Monmouth's account of the May festival at Stonehenge, also in the fifth century. The Slecht Gorsedd was the same in plan as the present Welsh one—a large stone surrounded by twelve other stones. The disappearance of the former goes far to prove the truth of the history. In Wales the Gorsedd was not suppressed in the interests of Christianity. It actually received Christian baptism. The first Gorsedd after the introduction of Christianity among the Welsh is called in the bardic records "Cadair Fedydd," baptismal chair. It is an expression that explains how in Wales it is unreasonable to look for any gap in the history of the Gorsedd there.

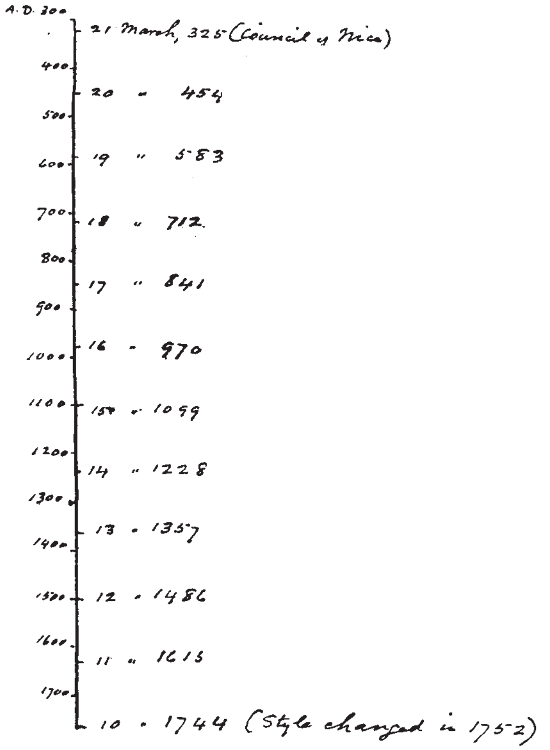

FIG. 1.—Diagram showing changes of the equinox-solstice date.

Our author has narrowed the inquiry into the birthplace of Patrick to the Severn estuary. Had he used some Welsh traditions about Patrick in Glamorgan he might have settled the question for good. There is a persistent tradition that Patrick was kidnapped by "pike-bearing" Irishmen from Llantwit-Major, in that county, and Mr. T. C. Evans (Cadrawd) has found three Banwens in that neighbourhood, either of which would suit for the Bannaventa mentioned as Patrick's home.

The accompanying diagram (Fig. 1) embodies the method by means of which Sir Norman Lockyer was able to note the equinoctial significance of St. Patrick's Day, before the facts mentioned by the present writer were available. Such a diagram may prove very useful to the historian. The changes in date have been calculated as from the Council of Nice, and each change represents an error of a day in 129 years. By a similar calculation as from B.C. 46, the beginning of the Julian Year, the 17th was an equinox date from A.D. 728 to 859, covering the whole period during which the particulars about Patrick were put together for an ecclesiastical purpose.

The present writer has found the following working hypothesis very useful in determining the significance of anomalous or irregular fair days. Any dates between the 10th and the 20th in March, June, September, and December may be suspected to be arrested solar days. When other evidence confirms such a supposition, the period of the institution of the fair or festival may be found by means of the above diagram. The process of arrest referred to is very evident in the case of fairs. In 1824 there were two three-days' fairs held at Bradford. One was on December 9, 10, and 11, being the dates of the fair before the change of style. The other fair was on June 17, 18, and 19. If the last figure is to be regarded as the solstice, we are taken back to 600 A.D. But it would be safer to regard the 17th as being the first of the three solstitial days, and that in the ninth century. The 17th is an important fair day, and it happens that St. Alban's Day is given in English calendars as June 17. The Welsh bards have somehow introduced the name Alban as that of a solstitial quarter day. That would naturally be suggested if Alban's Day at any time fell on the solstice, which may very well have happened in the ninth century. In an old Welsh calendar of about 1471 A.D., Alban's Day is June 22, when the date of the solstice was the 13th. That, however, does not dispose of our theory. By regarding the 22nd as the middle solstice day preceding the Council of Nice, we get the very period of the British proto-martyr. It was when the 21st was a solstice date that the earliest Christian calendar in the West was compiled, and it is possible that Alban's Day was fixed from the very first on the 22nd. The 21st is still called St. Alban's Eve. The question, therefore, is, Have we in the case of Alban's Day two arrested solar dates?

JOHN GRIFFITH.

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## NOTES.

SIR HENRY ROSCOE, F.R.S., and Sir William Ramsay, K.C.B., F.R.S., have been nominated foreign members of the Accademia dei Lincei, Rome.

THE Vienna Academy of Sciences has awarded the Baumgarten prize to Prof. E. Ritter v. Schweidler, for his work on the phenomena of dielectrics; the Lieben prize to Prof. H. Benndorf, for his work on the transmission of earthquake waves in the interior of the earth; and the Haitinger prize to Dr. Robert Kremann, for his work on the esters.

WE learn with regret of the death of Prof. Egon von Oppolzer at the early age of thirty-seven. Dr. von Oppolzer, who was a son of the celebrated Theodor von Oppolzer, was born at Vienna in 1869, and was educated at the universities of Vienna and Munich. In 1897 he became an assistant in the observatory at Prague, where he discovered in 1901 the variability in the brightness of the planet Eros. In the latter year he was appointed extraordinary professor of astronomy at Innsbruck, where he remained until his death. Among the subjects on which he wrote are astronomical refraction, solar physics, and the application of physical theory to stellar problems. He also made contributions to meteorology. A new form of zenith telescope was constructed by him, as well as a photometer of novel design. The variability of the minor planets, which has recently become a subject of very great interest, has naturally been investigated with the greatest success by the aid of photography, and it is worthy of note that Dr. von Oppolzer's important discovery in this branch of research was established by visual observations.

A MEETING of the Institution of Mechanical Engineers will be held on July 30–31, in the Mitchell Hall of the University, Aberdeen. The following papers will be read:—Aberdeen Harbour, by Mr. R. G. Nicol; cableways used on shipbuilding berths, by Mr. J. M. Henderson; portable pneumatic tools, by Mr. H. Bing; granite quarrying in Aberdeenshire, by Mr. W. Simpson; an electrically-controlled single-lever testing-machine, by Mr. C. E. Larard; observations on present-day practice in jute preparing and spinning, by Mr. D. J. MacDonald.

AFTER the current year the *Journal of Anatomy and Physiology* will be issued in two independent parts, one to be devoted to anatomical, histological, morphological, and embryological subjects, and the other to contain papers on subjects of physiological interest (including physiological histology and physiological chemistry). The acting editor of the anatomical part will be Prof. D. J. Cunningham, with whom will be associated Sir William Turner, K.C.B., Prof. A. Macalister, and Prof. G. S. Huntington. The acting editor of the physiological part will be Prof. E. A. Schäfer, with whom will be associated Profs. F. Gotch, W. D. Halliburton, C. S. Sherrington, and E. H. Starling.

THE Red-Hills Exploration Committee has issued an interim report for 1906. The committee is a joint committee of the Essex Archæological Society and the Essex Field Club appointed to make a systematic study of the red-hills, of which there are probably several hundreds on the coast of Essex alone. Work was commenced in the parish of Langenhoe, and three mounds have been examined thoroughly, particulars concerning which are given in the interim report. The red-hills vary in size from a few rods to several acres; they date from a remote period, and some at least are prehistoric. By some they have been regarded as salt works; by others as cattle shelters, human habitations, potteries, or glass factories. The object of the committee is to decide the question of their origin and significance, and an appeal is made for funds. Donations may be sent to Mr. H. Wilmer, St. Alban's Crescent, Woodford Green, Essex.

THE seventy-fifth annual meeting of the British Medical Association will be held at Exeter from July 27 to August 2. The president, Dr. R. A. Reeve, will deliver his address on July 30. The address in medicine, on "A Plea for Accuracy of Thought in Medicine," will be delivered on July 31 by Dr. W. H. White; that in surgery, on "The Contagion of Cancer in Human Beings, Auto-inoculation," on August 1 by Dr. H. T. Butlin; and the popular lecture, on "Weather, Climate and Health," on August 2 by Sir John W. Moore. There will be thirteen sections, and the names of these, with that of the president in each case, are as follows:—Pathology, Dr. R. Moore; medicine, Dr. W. Gordon; diseases of children, Mr. A. H. Tubby; psychological medicine, Dr. T. C. Shaw; electrical section, Dr. H. L. Jones; tropical diseases, Mr. J. Cantlie; surgery, Prof. G. A. Wright; ophthalmology, Mr. L. H. Tosswill; laryngology, otology, and rhinology, Dr. R. McKenzie Johnston; dental surgery, Mr. J. McKuo Ackland; obstetrics and gynæcology, Mr. E. H. Tweedy; State medicine, Dr. A. Newsholme; and naval and military, Dr. J. Porter.

ON Friday last, July 19, the new laboratory buildings erected by the Royal Horticultural Society in their gardens at Wisley, Surrey, were declared open by Lord Avebury in the presence of a large and distinguished assembly interested in the development of horticulture and in horticultural education in this country. The company was entertained to luncheon in the gardens by the council of the society, and the speakers after lunch included, in addition to Lord Avebury, Sir Trevor Lawrence, K.C.V.O. (president of the society), Lord Balfour of Burleigh, Sir William Chance, Sir Thomas Elliott, K.C.B., Prof. Michael Sadler, Sir William Vincent, and Sir John T. Dillwyn-Llewelyn. The laboratory buildings, which are the first in this country erected for the specific purpose of prosecuting research in horticultural science, include a research laboratory, a greenhouse for experimental work, a photographic dark-room, an office and store-room, and a students' laboratory accommodating twenty-four students at a time. The latter is equipped with all the necessary appliances for the study of plant life and its relationships to external conditions, and is excellently lighted and furnished with water and acetylene gas supply to the benches, &c. The subjects upon which the first researches are to be carried out are soil sterilisation and the etherisation of plants. The director of the laboratory is Mr. F. J. Chittenden, who was until recently a staff instructor in biology at the technical laboratories at Chelmsford.

THE following additional papers have been promised for reading before Section A of the British Association at the Leicester meeting:—On the motions of ether produced by collision of atoms or molecules, containing or not containing electrons, Lord Kelvin; on variability in the products resulting from changes in radium, emanation, Sir W. Ramsay, K.C.B.; on the production and origin of radium, Prof. E. Rutherford; the effect of high temperature on the activity of the products of radium, Prof. E. Rutherford and Dr. J. E. Petavel; Helium and radio-activity in common ores and minerals, Hon. R. J. Strutt; the transmission of the active deposit from radium emanation to anode, S. Russ; the absorption of gases by charcoal, Miss I. Homfray; on a theoretical method of attempting to detect relative motion between the ether and the earth, A. O. Rankine; the ultimate efficiency of illuminants, C. V. Drysdale; the variability in light of Mira Ceti and the temperature of sun-spots, Rev. A. L. Cortie; (1) on improving the plate constants of the astrographic catalogue, (2) on the determination of periodicity from a broken series of maxima, Prof. H. H. Turner; (1) some new results in the theory of functions of a real variable, (2) on the introduction of the mathematical idea of infinity, W. H. Young; the teaching of the elements of analysis, C. O. Tuckey.

IN the *Strand Magazine* for June, Mr. J. J. Ward, with the aid of numerous excellent photographs, tells the life-history of the goat-moth in a remarkably graphic manner.

IN the report of the Rugby School Natural History Society for the past year, attention is directed to the gift by Miss Loveday of a large collection of shells. Although these have been safely stored, the society lacks a conchologist capable of arranging the specimens in proper order.

THE second number of *British Birds* contains, as frontispiece, a striking portrait of the late Prof. Alfred Newton, reproduced from a photograph by Mayall. The publishers, Messrs. Witherby and Co., have also issued this photogravure in a large size suitable for framing. Mr. P. H.

Bahr continues his account of the life of the osprey; while Messrs. Witherby and Ticehurst discuss additions made to the British bird-list since 1899.

REPORTS of papers and discussions on museum-fittings and the difficulties experienced by curators owing to reflection from the glass in exhibition galleries occupy a considerable space in No. 12 of the *Museums Journal* for the current year. Reflection is considered to present an insurmountable difficulty, which might, however, have been mitigated in many museums had more attention been paid to the needs of the exhibits when the buildings were designed. The same issue contains reprints of two addresses sent by the Trustees of the British Museum (natural history) to Upsala on the occasion of the recent celebrations in honour of Linnæus.

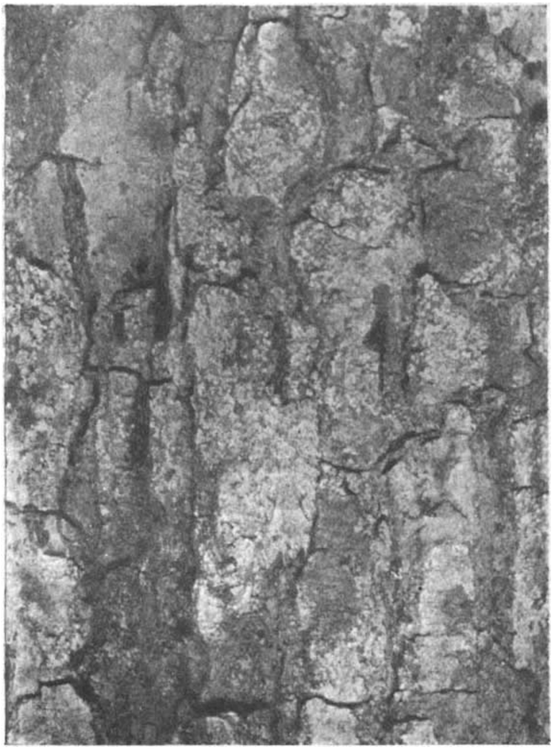
WE are indebted to the author, Mr. Henri Piéron, of the physiological laboratories at Sorbonne, for copies of several papers from the *Comptes rendus de la Société de Biologie* dealing with experiments to determine the nature of the factors which induce sleep. In the first of these the nature of the experiments he instituted on dogs for this purpose is discussed, while in the later ones such results as have at present been obtained are noticed. From the same author we have also received a paper from the Bulletins of the Institut général psychologique dealing with the "psychophysiology" of the sea-anemone *Actinia equina*.

CONCHOLOGISTS will be interested in two papers by Mr. Burnett Smith in the May issue of the Proceedings of the Philadelphia Academy. In the first the author discusses the genus Pyrula, which has existed since the late Eocene, and is now distributed in nearly all shallow tropical seas, a distribution suggesting that these seas had much freer intercommunication than is at present the case. Some of the Tertiary gastropods formerly included in Volutilithes, but now separated by the author as Athleta, form the subject of the second paper, in which the early stages of growth of these shells are discussed in detail.

A PROSPEROUS year in all branches is recorded in the report of the Yorkshire Naturalists' Union for 1906. An important piece of work undertaken by the geological section is the zoning of the Carboniferous rocks, which was inaugurated at the Ingleton meeting. The collection of photographs of important local rock-sections also continues to receive special attention. It is satisfactory to learn that the pair of peregrine falcons has continued to breed on Bempton Cliffs, although this is somewhat discounted by the driving away of a second pair which attempted to nest at Ingleboro'. Fortunately, in both instances public opinion is strongly in favour of protective legislation.

AT the close of an article in the *American Naturalist* for June on the perception of colour by the eye, Mr. J. M. Dane summarises the three chief theories which have been proposed to explain the phenomenon. According to the first of these, all colours may be received by each cone of the retina; the second claims that not more than two colours can be impressed on any one cone; while the third admits the reaction of only one colour on a single cone, so that there are separate blue, red, yellow, and other cones, and corresponding transmission-fibres in the optic nerve. According to this third hypothesis the mixing of sensations, which gives rise to shades and tints, must take place in the brain. Evidence in favour of the same view is afforded by the fact that no nerve is known to respond to impulses of distinct kinds; but it should be borne in mind that no corroborative evidence is at present afforded by anatomy. Attention may also be directed to a paper in the same issue by Mr. A. B. Wright on a graphic method of correlating the environment and distribution of fishes.

DESPITE a falling-off in the number of papers read, the South London Entomological and Natural History Society, of which the report for 1906–7 is now before us, has to record a successful year's work. One of the features of the year was an exhibition of natural history objects held in the society's rooms in March last, which attracted a large number of visitors. The report is illustrated by several interesting photographs, from among which we are enabled, by the courtesy of the editor, to reproduce one illustrating a marvellous protective resemblance of a moth to its surroundings. So closely, indeed, do the colouring and contour accord with the bark upon which the insect is resting that it requires somewhat minute examination to detect the presence of the latter. A second, although somewhat less striking, case of the resemblance of a moth to its surroundings is shown in another photograph, where a specimen of *Aplecta nebulosa* is depicted on oak-bark at Leith Hill.



A specimen of the moth *Xylina ornithopos* reposing on oak-bark in the New Forest. From Report of S. London Entomological and Nat. Hist. Society, 1906–7.

THE second edition of the volume of the official guide to the museums of economic botany at Kew, devoted to dicotyledons and gymnosperms, has been out of print for some years, and is now replaced by a third edition, that has been carefully revised and considerably augmented, from which the gymnosperms have been excluded. Besides furnishing a guide to the collections at Kew, the book provides a valuable authority on the popular and scientific names of economic products and their sources.

THE floras of the small islands known as sand keys, lying to the westward of Key West off the coast of Florida, also of the Marquesas and Tortugas groups, are graphically shown in a series of maps prepared by Mr. C. F. Millspaugh as publication No. 118 of the Field Columbian Museum. The mangrove vegetation in which *Rhizophora mangle* is the dominant species is an almost universal feature; an association of *Uniola paniculata* and *Euphorbia buxifolia* is commonly found, and a characteristic growth of *Suriana maritima* occurs on two of the Tortugas keys.

A SYSTEMATIC attempt is now being made to catalogue the flora of the county of Glamorgan. The work was done partly by the late Mr. John Storrie, but the new catalogue is being compiled by Prof. Trow, of the University College, Cardiff, assisted by a number of competent members of the Cardiff Naturalists' Society, and with the advice and help of Mr. A. Bennett, of Croydon. The catalogue will appear in the Transactions of the Cardiff Naturalists' Society, and is not expected to reach the complete form for another four years.

IN the botanical section of the Philippine Journal of Science, vol. ii., No. 1, contains a collation of Philippine Cyperaceæ founded on the material in the Kew Herbarium by the late Mr. C. B. Clarke, and a short list of Philippine myxogastres named by Mr. G. Massee. In connection with an account of the pteridophytes collected by Mr. E. D. Merrill on Mt. Halcon, in Mindoro, Prof. E. B. Copeland, who is responsible for the identifications, notes the predominance of the Celebes element over the Bornean. The collection includes a large number of species of Polypodium, several of which are new, four new species of Diplazium, *Tmesipteris tannensis*, and a new species of Lycopodium.

THE first number of vol. ii. of the botanical memoirs of the Department of Agriculture in India relates to diseases of cereals caused by *Sclerospora graminicola*, a member of the Peronosporeæ. While dealing with a matter of economic importance, the author, Dr. E. J. Butler, also gives consideration to the teratological aspect. The most interesting alteration occurs in the central prolification of the floral axis with the suppression of the pistil. The mycelium attains its maximum development in the leaves, and the reproductive organs are only produced there. The conidia arising on short, stout stalks germinate in water and give rise to zoospores; oogonia are formed in the leaf tissues at a later stage. Sclerospora disease has also been observed in India on *Sorghum vulgare* and Italian millet.

IN a reference to the sixth report of the Woburn Experimental Fruit Farm (NATURE, July 4, p. 231), Mr. F. V. Theobald stated that it had been found that "lead arsenate wash badly scorches the leaves under certain conditions and at certain strengths." Mr. Spencer Pickering informs us that the results obtained at the Woburn Fruit Farm do not lead to this conclusion; and upon referring the point to Mr. Theobald we find that the word "badly" written by him in his article should have been "slightly."

IN the *Philippine Journal of Science* for May there are an address delivered by Dr. Paul Freer, on modern theories of immunity; a preliminary communication, by M. Mirjajima, on the cultivation of a bovine piroplasma, in which it is shown that the *Piroplasma parvum* of cattle in a blood-broth culture medium seems to develop into trypanosomes; and an exhaustive article, by Messrs. Ashburn and Craig, on dengue fever.

WE have received a copy of the special bulletin of the State Board of Health containing a summary of the sanitary legislation in the United States enacted during 1906. Among others, we note that Massachusetts and Rhode Island have passed Acts to prohibit the misuse of vessels used in the sale of milk; Mississippi has passed an Act requiring the disinfection of public buildings, railway depôts, railway coaches, and sleeping cars; New Jersey an Act to provide for locating and abolishing mosquito-breeding places; and Virginia an Act prohibiting spitting in public places.

WE have received from the Count Camillo Raineri-Biscia a copy of a reprint of the work entitled "Fior di Pensieri sulle Pietre Preziose di Armed Teifascite" (Bologna: L. Andreoli, 1906), translated from the Arabic and annotated by Antonio Raineri-Biscia. The translation was published originally in 1818, the translator being the eminent professor of Oriental languages at the University of Pisa, who died in 1839. A biography of the translator is given, and of his numerous works there recorded none is of greater interest than this translation of the Arabic manuscript on precious stones by Ahmed Teifascite, preserved in the Royal Library at Florence. The work is divided into twenty-five chapters, each dealing with the formation, occurrence, properties, and value of a different mineral. Some of the minerals are somewhat difficult to identify with certainty, but they appear to be as follows:—pearls, hyacinth, emerald, topaz, balas ruby, amethyst (*benfesc*), garnet, diamond, cat's eye, turquoise, carnelian, onyx, magnetite, corundum, fluorspar (*dahnag*), lapis lazuli, coral, agate, heliotrope (*giemest*), jet (*khamahan*), jasper, rock crystal, and talc. The translation is admirably reproduced, and forms a valuable contribution to mineralogical history.

As might have been expected, Sir H. Risley's theory that the Bengalis represent a blend of Dravidian and Mongoloid elements with a strain of Indo-Aryan blood in the higher groups has been contested by those members of that enterprising race who claim a higher ethnical origin. The latest critic of this school, Rama Prasad Chanda, deals with the subject in the April number of *East and West* (Bombay). Admitting, as he is compelled to do, that the Bengalis are brachycephalic, he urges that the inclusion in the anthropometrical statistics of partially assimilated races, like the Mals, Koch, and Maghs, unduly increases the ratio of brachycephaly. He proposes a new ethnical classification of the Indian races, including in what he calls the "Outlandic" group tribes of such varied character as Pathans, Baloches, Bengalis, and some races of the Brahmaputra valley, with the population of Coorg and Bellary in South India, all distinguished by round or medium heads, regular features, and moderate stature. In thus excluding a Mongoloid element from Bengal and associating the Bengali with the Turko-Iranian tribes of the North-western Frontier, his views are not likely to be received favourably by competent Indian ethnologists.

A SELECT list of books, with references to periodicals, relating to iron and steel in commerce in the Library of Congress has been compiled by Mr. A. P. C. Griffin (Washington: Government Printing Office, 1907). The list, which covers twenty-four pages, is in no sense exhaustive. It forms, however, a handy guide to the most recent accessible literature of the subject.

IN view of the recent discussion of matters connected with Belgium's exploitation of the Congo, a well-informed paper on the railways of the Upper Congo, by Mr. D. C. Boulger, in the *Engineering Magazine* (vol. xxxiii., No. 4), deserves careful attention. It is a friendly estimate of Belgian enterprise and achievement in pushing the railway across Africa from the western coast towards the great north and south artery of the Cape to Cairo line. The excellent reproductions of photographs illustrating the article show the difficulty encountered in cutting the track through the dense forest.

The following interesting details, referring more particularly to the telegraphic weather service of the United States, are taken from the annual summary, 1906, of the *Monthly Weather Review*. The Weather Bureau officials issue forecasts for thirty-six and forty-eight hours in advance daily for each State; the materials necessary for this service, including observations from about twenty stations in the Atlantic and Western Europe, are received by telegraph from about 200 stations in the morning, and from a lesser number in the evening. Storm-warning telegrams are sent to lightships and vessels from all wireless telegraph stations of the navy department along the coasts of the Atlantic, Pacific, and Gulf of Mexico; a similar service has also been inaugurated with the Marconi Company. The immense amount of information received from some 4500 stations of different classes is exhibited to the public in various ways. The daily issue of weather maps in Washington is about 1625 copies; there are also 105 other places, which issue an aggregate of 25,000 maps daily. The number of ships cooperating with the Bureau in the department of marine meteorology was 1771 during the year in question.

The Munich central meteorological station has for the first time published the preliminary results of the observations made in unmanned balloons in Bavaria in connection with the international ascents. The observations refer to the year 1906, and were made under various conditions, including periods of Föhn winds. The results will be classified for the different types of weather in a later discussion. Below 3000 metres the mean gradient ($\Delta t$/100 m.) was $-0°{\cdot}57$ C., which seems to point to a cooling effect of the mountains on the surrounding air. The largest gradients, $-0°{\cdot}71$, occurred at altitudes of 6000–8000 metres. The lowest point at which the upper inversion occurred was 8000 m., during a barometric depression; the highest point was 13,300 m., during an anticyclone. With one exception the temperature of the warm current in the upper inversion lay between $-51°$ and $-58°$ C. On December 5, in cyclonic conditions, a temperature of $-72°{\cdot}5$ was recorded at 13,270 m.; above this altitude an inversion occurred, and at the highest point, 14,170 m., a temperature of $-63°{\cdot}5$ was registered.

The extensive use of flexible cord in electric light fittings at the present time makes it of prime importance that definite tests of the rubber on which their insulation depends should be instituted. Prof. A. Schwartz has collected together a large amount of information on the subject, and has added the results of his own experiments in his paper on "Flexibles" in the July number of the Journal of the Institution of Electrical Engineers. He considers that the diagram connecting stress and strain for a complete cycle of stresses applied, which he calls a "hysteresis" diagram, furnishes a better criterion of the character of the rubber than any other test in common use. He is in favour of the use of pure as against vulcanised rubber in flexible cords.

The hope that the work of Dr. J. A. Harker at the National Physical Laboratory, and of Drs. L. Holborn and F. Henning at the Reichsanstalt, had definitely fixed 1710° C. as the melting point of platinum, has been rudely shaken by the appearance of additional work by Messrs. C. W. Waidner and G. K. Burgess in the May Bulletin of the United States Bureau of Standards, and by Drs. L. Holborn and S. Valentiner in the *Annalen der Physik* (vol. xxii., p. 1). The former, by the optical pyrometer method, find the point is 1753° C., while the latter, by a comparison of the optical scale with the nitrogen scale up to 1600° C., have assigned 1789° C. to the point. These discrepancies show the necessity for further work before the scale can be considered definitely fixed at these high temperatures.

The current number of the *Quarterly Review* contains two articles of interest to scientific readers. The first, under the title "The Case for the Goat," urges the value of the goat as a producer of milk. "It is not only that the goat produces a relatively large quantity of milk, and exceptionally rich milk, but . . . this milk may be drunk practically without any risk of tubercular infection." The second article, "Magic and Religion," by Mr. Edward Clodd, gives in the form of a review of a number of recent works on anthropology, an interesting summary of the growth of the science, explaining by the way how other branches of natural knowledge have assisted its growth, and enumerating the more recent contributions to the study.

The Carnegie Institution of Washington has published an "Index of Economic Material in Documents of the States of the United States: Maine, 1820–1904." The work was prepared for the department of economics and sociology of the institution by Mr. Adelaide R. Hasse, of the New York Public Library. The purpose of the volume is to furnish a guide to the economic material contained in the printed reports of administrative affairs, legislative committees, and special commissions of the State of Maine and in the messages of the governors to the legislature of that State. The present volume will be followed by others, each devoted to a single State.

Several new editions of important German scientific works have recently been received. Prof. Otto Lummer has a volume on optics in Müller-Pouillet's "Lehrbuch der Physik und Meteorologie," the tenth revised edition of which is in course of publication, under the editorship of Prof. L. Pfaundler. The new edition is to be completed in four volumes, and Prof. Lummer's work (price 15 marks), though it runs into nearly nine hundred pages, is only the third book of the first part of the second volume. The publishers are Messrs. F. Vieweg and Son, Brunswick. A second revised edition of "Die Kathodenstrahlen," by Prof. G. C. Schmidt, has also been published by Messrs. Vieweg and Son. The original work was briefly noticed in Nature of June 9, 1904 (vol. lxx., p. 124); its price is 3 marks. The fifth revised edition of Prof. A. Engler's "Syllabus der Pflanzenfamilien" has been published by Messrs. Borntraeger Bros., Berlin. Two volumes in the Philosophische Bibliothek have been received from the Dürr'schen Buchhandlung, Leipzig; No. 35 is the sixth edition of the German translation of Hume's "Enquiry concerning Human Understanding," edited by Raoul Richter, and No. 113 is a commentary on Kant's "Kritik der reinen Vernunft," by Prof. H. Cohen. Another philosophical work is "Das Weltproblem von positivistischen Standpunkte aus," by Joseph Petzoldt, published by B. C. Teubner, Leipzig. From the same publisher we have received a small volume by Prof. P. Maas, entitled "Lebensbedingungen und Verbreitung der Tiere." Two papers by A. S. Marggraf and F. C. Achard, founders of the beet sugar industry, form No. 159 of Ostwald's "Klassiker der exakten Wissenschaften," published by W. Engelmann, Leipzig.